

Please amend the Specification according to the following marked up paragraphs.

Please delete blank paragraph [0016].

[0038] The invention is further described in connection with the

5 accompanying drawings, in which:

Figure 1a is a block schematic diagram showing a known basic interferometric fiber optic gyroscope;

10 Figure 1b is a block schematic diagram showing ~~the inventive elements~~ a known closed loop element for a prior art variant ~~an embodiment~~ of the interferometric fiber optic gyroscope;

Figure 1c is a block schematic diagram showing the inventive application of the saw tooth modulation according to the present invention.

15 Figure 2 is a graph of detected optical intensity or output current of a photodetector versus phase difference of counter-propagating light waves in the sensing coil of a fiber optic gyroscope;

20 Figures 3a and 3b are graphs showing the phase differences of the optical light waves and outputs of the gyroscope for zero and non-zero rotation rates, respectively, using a known sinusoidal wave modulation signal;

25 Figures 4a and 4b are graphs showing the phase differences of the optical waves and outputs of the gyroscope for zero and non-zero rotation rates, respectively, using a known square wave modulation signal;

- Figures 4c and 4d are graphs showing the phase differences of the optical waves and outputs of the gyroscope for zero and non-zero rotation rates, respectively, using the inventive saw-tooth wave modulation signal;
- 5 Figures 5a, 5b, and 5c are graphs showing a square wave demodulation process;
- Figure 6 is a graph showing the saw-tooth wave generated by an exemplary embodiment;
- 10 Figure 7 is a graph showing the phase difference between the wave shown in Figure 6;
- Figures 8 and 9 are graphs showing, for the saw too bias modulation, a more detailed view of the saw-tooth wave generated by an exemplary embodiment with the phase difference, including the interferogram produced; and
- 15 Figures 10 and 11 are graphs showing, for saw tooth loop closure, a more detailed view of the saw-tooth wave generated by an exemplary embodiment with the phase difference and the interferogram produced.

[0039] The operation of a saw-tooth modulation in the open-loop
20 configuration is described below. As shown in Figures 1a, b ~~Figure 1a~~, but using the inventive modulation shown in Figure 1c ~~4b~~, the electromagnetic energy traveling counter-clockwise passes through phase modulator 19 before the energy in the clockwise loop passes through phase modulator 19. Thus, both interfering waves carry the same phase modulation, $\phi_m(t)$, but shifted in time.

25 The delay is equal to the difference ($\Delta\tau_g$) of group transit time between the long and short paths that connect the modulator and the splitter. The bias modulation of the phase difference is thus:

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$$\Delta\phi_m(t) = \phi_m(t) - \phi_m(t - \Delta\tau_g)$$